

Amendment to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application:

Claim 1. (currently amended): A method of testing a mass consisting at least primarily of a first material for the presence of at least one second material, comprising the steps of:

establishing and maintaining a microwave field in a microwave resonator;

introducing the mass into the range of the microwave field so that the field is influenced by the mass; and

analyzing the influence of the mass upon the microwave field, including:

simultaneously measuring the actual values of a first and a second characteristic of the microwave field,

selecting an acceptable, two dimensional value range for the actual values,

ascertaining whether the actual values are within the acceptable range, and

generating signals when the actual values are outside of the acceptable range.

Claim 2. (original): The method of claim 1, wherein the acceptable range encompasses measured values of first and second characteristics of the microwave field when the field is influenced by a mass containing only the first material.

Claim 3. (original): The method of claim 1, wherein the actual values are outside of the acceptable value range, to thus initiate the generation of signals, when the mass being introduced into the range of the microwave field contains the at least one second material.

Claim 4. (original): The method of claim 1, wherein the mass includes a stream and said introducing step includes moving the stream through the microwave field.

Claim 5. (original): The method of claim 1, wherein the mass consists at least of the first material, of a wrapper for the first material, and potentially of at least some second material randomly distributed in the first material.

Claim 6. (original): The method of claim 1, wherein the first material is a material of the tobacco processing industry.

Claim 7. (original): The method of claim 6, wherein the first material is a smokable material.

Claim 8. (original): The method of claim 6, wherein the first material is filter material for tobacco smoke.

Claim 9. (original): The method of claim 1, further comprising the steps of:
conveying the mass through the microwave field along a predetermined path;
subdividing the mass in said path into a plurality of sections; and
utilizing said signals to segregate from said path those sections of the mass the introduction of which into the range of the microwave field resulted in the generation of signals.

Claim 10. (original): The method of claim 1, wherein said introducing step includes imparting to the mass the shape of a stream and conveying the stream in a predetermined direction along a path extending through the microwave field, confining the stream in a wrapping material upstream of the microwave field, as seen in said direction, and subdividing the wrapping material and the first material therein into a succession of discrete sections, and further comprising the step of utilizing said signals to remove from said path discrete sections containing said second material.

Claim 11. (original): The method of claim 10, wherein each discrete section includes a rod-shaped smokers' product.

Claim 12. (previously presented): The method of claim 1, wherein said step of selecting an acceptable value range for the actual values includes introducing into the microwave field a sample mass which is devoid of the at least one second material, examining the sample mass while within the microwave field, and utilizing the examining step to select said acceptable value range.

Claim 13. (original): The method of claim 12, wherein the sample mass contains a tubular envelope.

Claim 14. (original): The method of claim 1, further comprising the step of utilizing said actual values of said first and second characteristics of the microwave field for a determination of a characteristic of the mass other than potential presence of at least one second material.

Claim 15. (original): The method of claim 14, wherein the first material contains tobacco and said characteristic other than the potential presence of at least one second material includes at least one of the density and moisture content of tobacco.

Claim 16. (currently amended): Apparatus for testing a mass consisting at least primarily of a first material for the presence of impurities, comprising:

means for establishing and maintaining a microwave field in a microwave resonator;

means for moving at least one of the mass and the microwave field relative to the other so that the field is influenced by the mass; and

means for analyzing the influence of the mass upon the field, including:

means for simultaneously measuring the actual values of first and second characteristics of the field,

means for selecting an acceptable, two dimensional value range for the actual values,

means for ascertaining whether the actual values are within the acceptable range, and

means for generating signals when the actual values are outside of the acceptable range as a result of the influence of impurities upon the microwave field.

Claim 17. (original): The apparatus of claim 16, wherein said moving means includes means for moving an elongated flow of mass along an elongated path including a portion extending through the microwave field.

Claim 18. (previously presented): The apparatus of claim 16, further comprising means for segregating, in response to said signals, from the mass portions containing at least one impurity.

Claim 19. (original): The apparatus of claim 16, wherein the first material is a material of the tobacco processing industry.

Claim 20. (original): The apparatus of claim 16, further comprising means for processing said actual values for the determination of at least one characteristic of first material other than the presence or absence of impurities.